I/O Modules Overview

Use these instructions to set up the I/O modules supported in your TrendAI™ TippingPoint™ security devices.

Before You Begin

- Review the release notes for your product for any late-breaking changes to the installation instructions.
- Read and follow all safety information listed in documentation that shipped with your product.
- Complete the installation of your TippingPoint security device.

ESD Requirements

Damage from Electromagnetic Static Discharge (ESD) can occur when electronic components are improperly handled. Improper handling can result in complete or intermittent system failures. Proper ESD protection is required whenever you handle equipment. The following general grounding guidelines apply:

- Always use an ESD wrist strap when adding or removing components from the chassis.
- Avoid touching the circuit boards or connectors on all cards and modules.
- Avoid contact between the printed circuit boards and clothing. The wrist strap only protects components from ESD voltages on the body. ESD voltages on clothing can still cause damage.

Place a removed component board-side-up on an antistatic surface or in a static-shielding container that is also grounded to the same point as the device. If you plan to return the component to the factory, immediately place it in a static-shielding container.

I/O Module Options

TippingPoint devices with module slots support both standard I/O modules and bypass I/O modules (refer to the following table) for fiber and copper components.

All TX Series I/O modules support full-duplex operation only. Half-duplex is not supported.

Important: Only transceiver modules available from TippingPoint have been validated to achieve optimal performance with TippingPoint products. Other vendor devices are not supported and could be detrimental to proper operation of the TippingPoint system.

Bypass I/O modules are zero-power high-availability (ZPHA) modules that permit network traffic and services while bypassing the device entirely when the device loses power.

Note: For TX Series devices, consider the following I/O module restrictions:

- The 6-Segment GbE SFP module and both 40 GbE modules do not support auto-negotiation. Where auto-negotiation is supported on fiber modules, it operates at 1 Gbps only.
- If you use a 1000-BaseT copper SFP in the 6-Segment GbE SFP module, auto-negotiation will be available at 1000 Mbps.
- 10 GbE SFP+ modules support both SFP and SFP+ transceivers. If you plug SFP transceivers into SFP+ ports, only 1 Gbps speed will be available. Both 1 Gbps and 10 Gbps speeds can be configured with a multispeed SFP+ transceiver.

All standard I/O modules and all bypass I/O modules are hot-swappable on devices running TippingPoint Operating System (TOS) v3.6.0 or higher (*except where indicated).

For more information on I/O modules, refer to the product hardware documentation for your device.

Standard I/O Modules

6-Segment Gig-T

Ports: 12 Fixed RJ-45 copper ports

Port speed: 100/1000 Mbps

Part number: TPNN0059/TPNN0196

6-Segment GbE SFP

Ports: 12 SFP ports

Port speed: 1 Gbps

Part number: TPNN0068

Bypass I/O Modules

4-Segment Gig-T Bypass Module

Ports: 8 copper ports

Port speed: 100/1000 Mbps Part

number: TPNN0070

2-Segment 1G Fiber SR/LR Bypass Module

Ports: 4 Multi-Mode (SR)/Single-Mode (LR) Fiber (LC type)*

*The TX/RX sides of each duplex-LC bulkhead port match those of standard SFPs.The top ports are each TX|RX, and the bottom ports are each RX|TX.

Port speed: 1 Gbps

Part number: TPNN0071/TPNN0072

4-Segment 10GbE SFP+

Ports: 8 Fiber SFP+ ports

Port speed: 1/10 Gbps

Part number: TPNN0060

2-Segment 10G Fiber SR/LR Bypass Module

Ports: 4 Multi-Mode (SR)/Single-Mode (LR) Fiber (LC type)*

*The TX/RX sides of each duplex-LC bulkhead port match those of standard SFPs.The top ports are each TX|RX, and the bottom ports are each RX|TX.

Port speed: 1/10 Gbps

Part number: TPNN0073/TPNN0074

1-Segment 40 GbE QSFP+

Ports: 2 Fiber QSFP+ ports

Port speed: 40 Gbps

Part number: TPNN0069

1-Segment 40GbE Fiber SR4/LR4 Bypass Module*

Ports: 2 Multi-Mode (SR)/Single-Mode (LR) Fiber (LC type)

- 40 GbE-SR4 – 2 SR4 Multimode Ports
- 40 GbE-LR4 – 2 LR4 Singlemode Ports (LC Type)

Port speed: 40 Gbps

Part number: TPNM0131 (SR4)/TPNM0132 (LR4)

*For TX-Series devices, ensure that you upgrade to TOS v5.2.0 or later before inserting the 40 GbE bypass module.

I/O Module Port Configuration Specifications

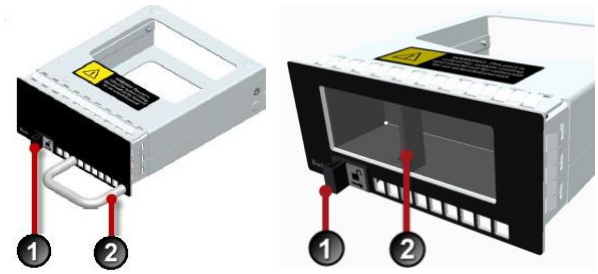
The following table lists the supported port speeds, auto-negotiation support, and transceiver types for each TX Series I/O module.

I/O Module	Part Number	Supported Speeds	Auto-Negotiation	Transceiver Type	Notes
6-Segment Gig-T	TPNN0059 TPNN0196	100/1000 Mbps	Yes	N/A (fixed RJ-45)	1000 Mbps requires auto-negotiation.
4-Segment Gig-T Bypass Module	TPNN0070	100/1000 Mbps	Yes	N/A (fixed copper)	1000 Mbps requires auto-negotiation.
6-Segment GbE SFP	TPNN0068	1 Gbps	No	SFP	Auto-negotiation is available only with a 1000-BaseT copper SFP installed.
2-Segment 1G Fiber SR/LR Bypass Module	TPNN0071 (SR) TPNN0072 (LR)	1 Gbps	Yes	N/A (embedded)	
4-Segment 10GbE SFP+	TPNN0060	1 or 10 Gbps	Yes (1 Gbps only)	SFP or SFP+	1 Gbps requires a 1 GbE SFP or multispeed SFP+ transceiver.
2-Segment 10G Fiber SR/LR Bypass Module	TPNN0073 (SR) TPNN0074 (LR)	1 or 10 Gbps	Yes (1 Gbps only)	N/A (embedded)	
1-Segment 40 GbE QSFP+	TPNN0069	40 Gbps	No	QSFP+	
1-Segment 40GbE Fiber SR4/LR4 Bypass Module	TPNM0131 (SR4) TPNM0132 (LR4)	40 Gbps	No	N/A (embedded)	Requires TOS v5.2.0 or later.

Important: Handle all I/O modules with care. The bypass modules contain mechanical switches that are very delicate and can cause network disruption if handled improperly. For more information about deploying bypass modules, refer to the product hardware documentation for your TippingPoint security device.

Add I/O Modules

TippingPoint devices come with blank modules inserted into module slots.



To remove the blank module, slide the slide latch (1) to the right and pull on the handle (2 on left module) or grab point (2 on right module).

CAUTION: Never lift your device using the module handles.

To insert an I/O module, slide the module into the empty module slot. When the module is in the correct position, the slide latch automatically slides into position.

Warning: Do not leave slots empty for an extended period of time. Insertion of a blank module or I/O module ensures that the device is correctly cooled.

Module LEDs

The following table describes the module LEDs.

Feature	LED	Color	Description
Fixed RJ45 copper port	Link	Green	Link is active.
	Activity	Blinking amber	Data traffic passing.
Optical transceiver port	Link	Green	Link is active.
	Activity	Amber	Data traffic passing.
Module Health	Status	Green	The module is configured, in service, and in good health.
		Blinking amber	The module has been inserted and powered up, but is not yet recognized by the software.
		Solid amber	The module is experiencing a fault.
Bypass	Status	Off	Module in bypass.
		Green	Module in normal mode (not in bypass).

Hot-Swapping I/O Modules

On devices running TOS v3.6.0 or higher, I/O modules can be installed or removed while the device is in the normal operating state. *Hot-swapping I/O modules during system initialization is not supported.*

There are several slot and port configuration factors to consider when hot-swapping I/O modules. The module port configuration is always reset when the I/O module is replaced by another type of module. If you replace it with the same I/O module type, any configuration changes you previously made are retained. This also is true when replacing modules with the power turned off.

For detailed guidelines and procedures, refer to the product hardware documentation for your TippingPoint security device.

Supported Transceivers and Cables for TippingPoint I/O Modules

I/O module & part number	Transceiver part number	Transceiver name
6-Segment GbE SFP (TPNN0068)	TPNN0054	TippingPoint X126 1G SFP RJ45 Transceivers (Copper)
	TPNN0055	TippingPoint S126 1G SFP LC SX 550m 850nm Transceiver
	TPNN0056	TippingPoint X126 1G SFP LC LX 10km 1310nm Transceiver
4-Segment 10GbE SFP+ (TPNN0060)	TPNN0057	TippingPoint S136 10G SFP+ LC SR Transceiver
	TPNN0058	TippingPoint S136 10G SFP+ LC LR Transceiver
1-Segment 40 GbE QSFP+ (TPNN0069)	TPNN0067	TippingPoint S146 40G QSFP+ SR4 850nm Transceiver
	TPNN0327	TippingPoint S146 40G QSFP+ LR4 1310nm Transceiver

I/O module part number	Cable part number	Cable name
TPNN0069*	TPNN0212	TippingPoint 40G QSFP+ Active Optical Cable (AOC)

*When this I/O module is used with this cable, transceivers TPNN0067/TPNN0327 are not needed. The cable has the transceiver attached.

Privacy and Personal Data Collection Disclosure

Certain features available in TrendAI™ products collect and send feedback regarding product usage and detection information to TrendAI™. Some of this data is considered personal in certain jurisdictions and under certain regulations. If you do not want TrendAI™ to collect personal data, you must ensure that you disable the related features.

The following link outlines the types of data that the Security Management System collects and provides detailed instructions on how to disable the specific features that feedback the information.

https://success.trendmicro.com/data-collection-disclosure

Data collected by TrendAI™ is subject to the conditions stated in the TrendAI™ Privacy Policy:

https://www.trendmicro.com/en_us/about/legal/privacy-policy-product.html

Legal Notice

TrendAI™, the Trend Micro t-ball logo, TippingPoint, and Digital Vaccine are trademarks or registered trademarks of TrendAI™ Incorporated. All other product or company names may be trademarks or registered trademarks of their owners.

Copyright © 2024. TrendAI™ Incorporated. All rights reserved.

Publication: August 2026